

**AMENDMENTS TO THE CLAIMS**

*This listing will replace all prior versions, and listings, of claims in the application:*

1. (Currently amended) A pseudo-isothermal radial chemical reactor for catalytic reactions, comprising:

a substantially cylindrical shell ~~(2)~~ closed at the opposite ends by respective base plates; ~~(3 and 4)~~,

a reaction zone ~~(8)~~ in which comprising a respective catalytic bed ~~(44)~~ and a plurality of heat exchangers ~~(22)~~ placed in said respective catalytic bed; and ~~reaction zone (8) are supported, characterised in that it comprises~~

at least one second further reaction zone ~~(26)~~ comprising a respective catalytic bed ~~(29)~~ and a plurality of heat exchangers ~~(36)~~ placed in said ~~second reaction zone (26)~~ respective catalytic bed of said second reaction zone, said first and said second reaction zone ~~(8 and 26)~~ being in fluid communication with each other.

2. (Currently amended) Chemical reactor according to claim 1, ~~characterised in that~~ wherein said first and said second reaction zone ~~(8 and 26)~~ are associated in series.

3. (Currently amended) Chemical reactor according to claim 2, ~~characterised in that~~ wherein the plurality of heat exchangers ~~(22)~~ of at least one of said reaction zones ~~(8, 26)~~ is in fluid communication with the outside.

4. (Currently amended) Chemical reactor according to claim 3, ~~characterised in that~~ wherein the pluralities of heat exchangers ~~(22, 36)~~ of both of said reaction zones ~~(8, 26)~~ are in fluid communication with each other.

5. (Currently amended) Chemical reactor according to claim 4, ~~characterised in that~~ wherein at least one exchanger of said pluralities of heat exchangers ~~(22, 36)~~ is plate-shaped, rectangular and boxed.

6. (Currently amended) Chemical reactor according to claim 5, ~~characterised in that~~ wherein said plurality of exchangers ~~(22)~~ is arranged radially, coaxially with respect to the axis ~~(A-A)~~ of the reactor.

7. (Currently amended) A method for ~~optimising~~ optimizing pseudo-isothermal catalytic reactions, comprising the steps of:

feeding reactants to a reaction zone ~~(8)~~ comprising a catalytic bed ~~(11)~~ and a plurality of heat exchangers ~~(22)~~ placed in said catalytic bed; ~~(11), characterised in that it comprises the further steps of~~

collecting reactants and products coming from the reaction zone; ~~(8);~~

conveying said reactants and products to a second reaction zone ~~(26)~~ comprising a respective catalytic bed ~~(29)~~ and a respective plurality of heat exchangers ~~(36)~~ placed in said catalytic bed; and (29);

feeding said reactants and products to said second reaction zone ~~(26)~~ and completing the reaction in said catalytic bed ~~(29)~~.